AMERICAN MUSEUM NOVITATES

Number 1010 Published by THE AMERICAN MUSEUM OF NATURAL HISTORY New York City December 30, 1938

RECORDS AND DESCRIPTIONS OF AFRICAN SYRPHIDAE.—II (DIPTERA)

By C. H. Curran

The preceding paper in this series dealt with a number of genera that are more or less isolated from the general group of Syrphids. The present contribution deals with the Syrphinae, a group recognized by the absence of pile on the humeri, the head being concave posteriorly and usually mostly concealing the humeri.

Chrysotoxum Meigen

But one species is known from the Ethiopian region.

Chrysotoxum continum Bezzi

Bezzi, 1915, 'Syrph. Ethiop. Reg.,' p. 118.

Female, Kabale, Uganda, April 9, 1927.

Afrosyrphus Curran

This genus contains only one known species and was originally described from a single male from the Belgian Congo. The species resembles some representatives of the genus *Ischyrosyrphus* Bigot but the antennae are very long and porrect as in the genus *Chrysotoxum*.

Afrosyrphus varipes Curran

Curran, 1927, Bull. Amer. Mus. Nat. Hist., LVII, p. 50.

Male, Yambuya, Congo, November 29, 1913; male, Lesse, Congo, July 21, 1914; female, Walikale, Congo, January 7, 1915 (J. Bequaert).

The extent of the dark color on the abdomen varies considerably, in one male only the first segment, basal half and narrow apex of the second segment being reddish yellow. The female agrees with the male in almost all respects. The abdomen is blackish, thinly gray pollinose, the first and second segments as described above, the third and fourth each with a broad, interrupted sub-basal reddish fascia and the apex reddish, the fasciae not extending over the lateral margins. The front gradually narrows from below to the vertex, is shining black with a band

of brown pollen occupying the median third and a narrow stripe of whitish pollen along the orbits on the lower third, the frontal pile black on the upper two-thirds, yellow below; the vertical triangle is swollen and thickly hairy, the space between it and the orbits bare. The face may be either yellow or brownish in ground color, the cheeks always yellowish.

ASARKINA MACQUART

This genus, which closely resembles *Syrphus* has the abdomen unusually flattened and strongly margined and the facial tubercle is quite often "pinched" or concave laterally. The genus occurs only in the Old World.

TABLE OF SPECIES

1.—Face wholly yellowish.....2.
Face with median black stripe or spot.....11.
2.—Frontal triangle flat, short yellow pilose, the antennal prominence not developed; front of female yellow pilose anteriorly; scuttelum wholly yellow pilose; small species, length less than 9 mm..... *minor* Bezzi.
Frontal triangle rarely flat, if so black pilose and the scutellum partly black-haired, larger, broader species, more than 11 mm. in length.....3.
3.—Metascutum evenly convex from side to side, not sulcate.....4.
Metascutum with a distinct and often deep median sulca.....7.
4.—Ventral scutellar fringe yellow.....5.
Ventral scutellar fringe black.....*punctifrons* Austen.
5.—Face yellow pollinose.....6.
Face wholly white pollinose.....*medjensis* Curran.
6.—Metascutellar sulca weak but distinct; front of male with black spot; scutellum more than half black pilose; facial tubercle not more prominent than the oral margin.....*usambarensis* Bezzi.
Metascutum without trace of sulca; frontal triangle wholly pale; scutellum black haired on only the apical third; facial tubercle much more prominent than the oral margin.....*liberia*, new species.
7.—Frontal triangle black pilose in male, the front of the female black pilose on its whole length.....8.
Frontal triangle yellow pilose, the front of the female yellow pilose on the lower third.....*africana* Bezzi.
8.—Face yellow pollinose, at most whitish near the cheeks.....9.
Face white pollinose.....*albifacies* Bezzi.
9.—Black abdominal fasciae not more than one-sixth as wide as the length of the third abdominal segment.....10.
Black fasciae almost one-third as wide as the segmental length..*gemmata* Bezzi.
10.—Supra-antennal area reddish.....*ericetorum* Fabricius.
Supra-antennal area black.....*usambarensis* Bezzi.
11.—Facial tubercle cariniform, the sides flattened.....*amoena* Austen.
Facial tubercle without flattened sides.....12.

12.—Facial black stripe occupying the lower half of the face or more.....13.
Facial black spot limited to a quadrate spot below.....*fiorii* Bezzi.
13.—Eyes bare.....14.
Eyes pilose.....*hirsuticeps* Bezzi.
14.—Yellow fasciae on third and fourth abdominal segments narrowed in the middle.....*eremophila* Loew.
Yellow fasciae on third and fourth abdominal segments not narrowed medianly.....*rostrata* Wiedemann.

Asarkina minor Bezzi

Bezzi, 1915, 'Syrph. Ethiop. Reg.,' p. 27.

One male, Gbanga, Liberia, September, 1926 (J. Bequaert).

The metascutum is evenly convex from side to side. *A. medjensis* Curran is related to *minor* but has the front of the male black haired and is considerably larger.

Asarkina medjensis Curran

Curran, 1927, Bull. Amer. Mus. Nat. Hist., LVII, p. 52.

The type male was from Medje, Congo. There is a female before me collected by Dr. J. Bequaert on Mt. Ruwenzori, Congo, April 11, 1914, at an altitude of 1800 m., and two males and five females from Lourenço Marques (H. A. Junod).

The female has the front reddish on the lowest fourth, wholly black haired and mostly brownish ochreous pollinose. The antennal tubercle is distinct. Black abdominal fasciae about as wide as in *punctifrons*, the one on the sixth segment reduced to a pair of small median spots.

Asarkina punctifrons Austen

Austen, 1909, Trans. Zool. Soc. London, XIX, p. 89.

Male, Bafuka, Uele, Congo (Rodhain); male, Pengo, Congo, February 10, 1914 (J. Bequaert); two males, Eden, Cameroons (J. Reis); male and female, Lenga Town, Liberia, August 15, 1926; male, Paiata, Liberia, October, 1926 (J. Bequaert); male, Lourenço Marques, January–March, 1914 (H. A. Junod).

Asarkina usambarensis Bezzi

Asarcina ericetorum usambarensis Bezzi, 1908, Ann. Mus. Nat. Hung., VI, pp. 495–504.

Male, Stanleyville, Congo, March, 1915 (Lang and Chapin); four males, Lenga Town, Liberia, August 15, 1926 (J. Bequaert); male and four females, Lourenço Marques, January–March, 1914 (H. A. Junod); male, Ricatla, Delagoa Bay (Janson); male, N. W. Tanganyika, 1910 (Grauer).

This species is very close to *ericetorum* Fabricius but the black supra-antennal spot and mostly black pilose scutellum will distinguish it.

Asarkina africana Bezzi

Asarcina ericetorum africana Bezzi, 1908, Ann. Mus. Nat. Hung., VI, p. 499.

A male from Lourenço Marques, April–July, 1914, and one from Sierra Leone.

Asarkina gemmata Bezzi

Bezzi, 1915, 'Syrph. Ethiop. Reg.,' p. 26.

Female, Chirinda Forest, Southern Rhodesia, November, 1930 (A. Cuthbertson).

Asarkina liberia, new species

Frontal triangle wholly reddish; abdomen orange with narrow black segmental apices. Length, 13 to 14.5 mm.

Male.—Head black, the face and frontal triangle reddish yellow, reddish yellow pollinose, the pollen becoming white along the lower facial orbits. Pile yellow, silvery white on the lower half or more of the occiput; long and black on the frontal triangle; very short and black on the vertical triangle except at the vertex where it is short and reddish yellow. Ocellar triangle long, less than one-fifth as long as the shining black, elongate vertical triangle, the eyes touching for a shorter distance than the length of the latter triangle. Occiput whitish pollinose, becoming brownish yellow above. Cheeks shining black except anteriorly, where the orange color extends along the oral margin. Face prominent, the tubercle conspicuous and distinctly more prominent than the oral margin, its sides "pinched" and slightly concave; face very gently convex below the antennae, the tubercle arising abruptly. Antennae reddish, third segment broadly brown above on the inner surface, a little more than twice as long as wide and gently tapering from the basal third to the rounded apex; arista reddish basally, brown apically.

Mesonotum shining greenish black, the sides broadly pale orange, the middle very broadly and thinly brownish pollinose. Mesopleura and pteropleura mostly reddish in ground color, the pleura with reddish-yellow pollen. Scutellum pale orange. Pile reddish yellow, black on the apical third of the scutellum; ventral scutellar fringe pale.

Legs reddish yellow, the posterior tarsi brown beyond the first segment, the anterior four more or less brownish above. Pile reddish yellow, black on the upper surface of the posterior tibiae and on the upper surface of all the tarsi; posterior femora with black hair on the anterior surface except basally.

Wings with luteous tinge; stigma pale brownish. Third vein gently dipped into apical cell. Squamae and halteres reddish yellow.

Abdomen orange, the segments black on the apical fifth or less, the black only slightly produced forward in the middle. First segment black on the median half, the second with a small basal brown triangle in the middle. Pile reddish yellow, black on the lateral margins except basally, on the black fasciae, on the whole of the fifth segment and on the apical half of the fourth in the middle. Genitalia reddish.

FEMALE.—Front shining black, wholly black pilose, the vertex more or less violaceous, the sides very broadly, rich brownish yellow pollinose to above the middle; ocellar triangle scarcely longer than wide, situated well forward. Sixth abdominal segment at least half black.

TYPES.—Holotype, male, and allotype, female, Gbanga, Liberia, September, 1926 (J. Bequaert). Paratypes, three males, same data and one male, Lenga Town, Liberia, August 15, 1926 (J. Bequaert); female, Eden, Cameroons (J. A. Reis).

SYRPHUS FABRICIUS

This name should be applied, properly, to those species in which the lower lobe of the squamae is pilose above. As so limited the genus is a small one, *S. ribesii* Linnaeus from northern Africa and Europe, being the lone representative. The remaining species belong to a number of segregates—*Metasyrphus*, *Epistrophe*, *Stenosyrphus*, etc.,—but in view of the fact that I do not have representatives of all the species I am retaining them under *Syrphus* for the present. For convenience I divide the species into two groups, one with the sides of the abdomen margined as in *Syrphus* s.s., the other with simple lateral margins.

SECTION I

This group has the lateral margins of the abdomen raised and separated from the disc by a distinct groove. Occasionally, in drying, there is little evidence of the raised margin but the specimens can always be placed here because there is an oblique impression on the sides of the second segment, originating near the lower base and extending to the upper edge beyond the middle. As a general rule the species belonging in this group are more robust than those placed in section II. Each of these groups may be further divided by the presence or absence of pile on the metasternum.

TABLE OF SPECIES

1.—Eyes pilose.....2.
Eyes bare.....*cognatus* Loew.
2.—Stigma with basal blackish spot.....4.
Stigma wholly yellow.....3.
3.—Abdomen with whitish fasciae not reaching the lateral edges.....
.....*capensis* Wiedemann.
Abdomen with yellow fasciae extending over the sides.....*eutaeniatus* Bezzi.
4.—Antennae much shorter than the face, the third antennal segment short oval..
.....5.
Antennae about as long as the face, the third segment very elongate.....
.....*inflaticornis* Bezzi.

5.—Third abdominal segment with a broad yellow fascia touching the anterior border.....6.
Third abdominal segment with narrow whitish fascia broadly separated from the anterior border or with a pair of spots.....8.
6.—Wings brownish on the basal half.....*tricolor* Walker.
Wings wholly hyaline.....7.
7.—Second and fourth abdominal segments without pale fasciae.....*melas* Bezzi.
Second and fourth segments with pale fasciae.....*adligatus* Wiedemann.
8.—Third abdominal segment with a pair of oblique yellowish spots.....*intersectus* Wiedemann.
Third segment with grayish fascia.....9.
9.—Face black or brownish yellow pilose.....10.
Face pure white pilose.....*claripennis* Loew.
10.—The shining black fasciae on the sternites extend over the lateral margins; wings tinged with brown on the basal half.....*luci*, new species.
The shining black ventral fasciae are broadly separated from the sides of the sternites; wings cinereous hyaline.....*hirticeps* Loew.

Syrphus cognatus Loew

Loew, 1857, Ofvers. Kongl. Vet. Akad. Förhandl., XIV, p. 378.

Three males and two females, Johannesburg; male and female, Botshabelo, near Middleburg, Transvaal, 4000 ft. (H. A. Junod); female, Basutoland (Janson); male and female, Pretoria, August 27, 1914, and October 14, 1917; female, Port Sheptone, July 5, 1917; male, Tarkastad, September 29, 1922 (H. K. Munro).

Syrphus capensis Wiedemann

Wiedemann, 1830, 'Aussereur. Zweifl.,' II, p. 127.

Female, Basutoland. Also a male labelled "Cape" from the Novara Cruise.

Syrphus inflaticornis Bezzi

Bezzi, 1915, 'Syrph. Ethiop. Reg.,' p. 31.

Three females, Lubutu, Congo, January 21, 1915, and February 6, 1915; female, Irumu to Penge, Congo, March 1, 1914; female, Burunga, Congo (J. Bequaert).

Syrphus adligatus Wiedemann

Wiedemann, 1824, 'Anal. Ent.,' p. 35.

Two males and four females, Burunga, Congo; male, Indata, Congo, February 26, 1927; female, Walikale, Congo; female, Uvira, Congo, January 28, 1927; male, Boswenda, Congo, October 22, 1914 (J. Bequaert).

Syrphus hirticeps Loew

Loew, 1857, Ofvers Kongl. Vet. Akad. Förhandl., XIV, p. 378.

Five males and six females, Addis Abbaba, Abyssinia, August 11 to 31, 1920 (B. Brown).

Syrphus tricolor Walker

Walker, 1852, 'Dipt. Saunders.,' p. 230.

Male, Johannesburg.

Syrphus luci, new species

Syrphus hirticeps Bezzi, 1915, 'Syrph. Ethiop. Reg.,' p. 33 (not Loew).

Related to *hirticeps* Loew but readily distinguished by the characters given in the key.

Black, the abdomen with pale pollinose bands on aeneous ground; eyes pilose; facial pile black. Length, 9 to 10 mm.

Male.—Head black, the face reddish except for the broad oral margin and a broad, incomplete median vitta extending over the tubercle; pile yellow on the occiput, cheeks and eyes, black on the face and front. Frontal triangle shining anteriorly, rich reddish brown or brownish red pollinose above and laterally; vertical triangle shining; a few black occipital cilia above. Face slightly receding, the tubercle moderately large and prominent. Pollen of the occiput cinereous, of the face cinereous yellow. Antennae black; third segment about twice as long as wide, subcylindrical, more tapering above; arista brown, slightly longer than the third segment.

Thorax black, dulled by brownish pollen except laterally behind the suture, the notopleura and pleura with gray pollen. Pile tawny, paler on the lower part of the pleura. Scutellum dull reddish yellow, the basal corners with metallic blue-green spot; the pile black with some tawny hairs intermixed, the ventral fringe tawny.

Legs reddish, the tibiae with more or less extensive brownish stain; femora with basal two-thirds or more black; apical four tarsal segments brown. Pile yellowish, black on the tarsi and on the apices of the femora.

Wings hyaline with almost the basal half yellowish brown; stigma dark luteous, with darker basal spot. Squamae yellow, with reddish-yellow fringe. Halteres pale yellow.

First abdominal segment metallic blue-green, the lateral margins similarly colored. Second segment opaque black, with a narrow, interrupted cinereous yellow pollinose fascia behind the middle, the outer ends widest, well separated from the lateral margins, the spots tapering gradually to the acute inner ends; apex of the segment very narrowly shining. Third segment with a broad, cinereous yellow pollinose fascia lying almost wholly before the middle and slightly wider than the basal black fascia, the outer ends of the fascia widened and only narrowly separated from the lateral margins. Fourth segment with similar fascia to that on the third but it is a little narrower and lies closer to the base of the segment. Fifth segment mostly metallic greenish black, the broad apex and median vitta opaque, the broad inner ends of the metallic spots more or less pollinose. Pile reddish yellow, black on the broad apices of the second and third segment, on the apical half of the fourth and the whole of the fifth. Genitalia black, cinereous yellow pollinose. Venter shining black,

the first sternite, broad bases of the three following and the broad apex of the second, grayish pollinose, the pile yellowish.

FEMALE.—Front widening from the vertex to the antennae, shining black, with a broad, yellowish brown pollinose band across the middle, the orbits cinereous pollinose below; frontal pile wholly black. Abdominal bands slightly narrower than in the male, the pile shorter, the black hair extending forward to the pollinose fascia on the third segment; fifth segment shining, the base broadly but incompletely opaque and with a triangle of yellowish pile on each side. The pollinose fasciae on the sternites may be underlain with reddish, or they may be much narrower.

TYPES.—Holotype, male and allotype, female, Mt. Ruwenzori, Belgian Congo, April 13, 19, 1914. Paratypes, male and female, same locality, April 21 and May 18, 1914, and one male, Burunga, Congo, all collected by Dr. Joseph Bequaert.

Syrphus claripennis Loew

LOEW, 1857, Ofvers. Kongl. Vet. Akad. Förhandl., XIV, p. 378.

Two females, Burunga, and one from Mt. Ruwenzori, Congo, June 3, 1914 (J. Bequaert); male and female, Johannesburg, (J. P. Cregoe); two females, Witzieshoek, S. E. Africa (Janson).

SECTION II

I place here those species in which the abdomen is not margined, the sides being curved under and thinned.

TABLE OF SPECIES

1.—Face with a black median vitta or stripe covering the tubercle.....2.
Face wholly yellow.....4.
2.—Sides of the mesonotum wholly yellow.....3.
Sides of the mesonotum not yellow on the whole length.....7.
3.—Median yellow bands of the abdomen entire.....*rotundicornis* Loew.
Median yellow bands broadly interrupted in the middle...*calinus*, new species.
4.—Sides of the mesonotum broadly yellow on the whole length.....5.
Sides of the mesonotum not yellow on the whole length.....10.
5.—Abdomen with four pairs of very large yellow spots.....11.
Abdomen fasciate, the fasciae entire.....6.
6.—Front of the female black on the whole length; male with a black supra-antennal spot.....*varipes* Curran.
Front of female yellow on lower third or more; frontal triangle of the male wholly yellow.....*pfeifferi* Bigot.
7.—Scutellum with a transverse black spot on the disc.....*feae* Bezzi.
Scutellum wholly yellow on the disc or with a narrow longitudinal triangle..8.
8.—Antennae black, the third segment sometimes broadly reddish below.....9.
Antennae mostly yellowish.....*redivivus* Bezzi.
9.—Black facial vitta reaching the antennae.....*cinctifacies* Speiser.
Facial vitta abbreviated above (Syrphus?).....*intersectus* Wiedemann.
10.—Disc of scutellum with distinct, broad, transverse brown band.*schultzianus* Bezzi.
Scutellum wholly yellow.....*trisectus* Loew.

11.—Frontal lunule with black spot in the middle..... *calopoides*, new species.
Frontal lunule wholly yellow..... *calopus* Loew.

Syrphus rotundicornis Loew

Loew, 1857, Ofv. Kongl. Vet. Akad. Förh., XIV, p. 379.
Loew, 1858, 'Dipt. Fauna Sud-Afrik.,' p. 308.

Two males and four females, Johannesburg, May, 1906; female, Basutoland.

This species has been placed in *Xanthogramma* by Bezzi. I suspect that *Syrphus dentatus* Walker described from "Cape" in 1852 is the same.

Syrphus calopoides, new species

Related to *calopus* Loew, but more robust and with a median black spot on the supra-antennal lunula. Abdomen with four pairs of large, oval, yellowish spots. Length, 9 mm.

Male.—Face, cheeks and front reddish yellow, the upper two-thirds of the front opaque, the cheeks whitish pollinose posteriorly. Front moderately large, with a roundish black spot on the lunula. Vertical triangle black, with thin brownish pollen. Occiput black, cinereous white pollinose. Pile yellowish, black on the frontal and vertical triangles and on the sides of the facial tubercle. Face slightly receding, the tubercle large, but rather low. Antennae reddish, the third segment brown on the upper apical half; arista brown, reddish basally. Eyes bare.

Mesonotum shining greenish black, the sides broadly reddish yellow; propleura, posterior half of the mesopleura and a broad band extending over the upper border of the sternopleura to the metapleura, reddish yellow, the pleura and sternum otherwise greenish black and thinly pale pollinose. Scutellum reddish yellow. Pile pale reddish yellow, black on the posterior third of the mesonotum and on the scutellum.

Legs reddish yellow, the posterior tibiae, except a broad median band, their tarsi and the apical four segments of the anterior four tarsi, reddish brown. Pile black, yellow on the front tibiae and on the ventral surface of the middle pair.

Wings cinereous hyaline, the stigma pale brownish. Squamae and fringe reddish yellow. Halteres yellow.

Abdomen opaque black, with very large reddish-yellow spots, the base, lateral margins and apex shining. Sides of the first segment broadly yellow. The spots on the second segment extend from the basal fifth to the apical sixth laterally, convex in front and behind and obtusely pointed inwardly behind their middle, very broadly separated from each other and narrowly so from the lateral margins. On the third and fourth segments the spots are more oval, widest toward the front, the outer anterior corner broadly rounded; on the fifth segment the spots are broader than long, touch the base of the segment broadly toward their inner ends and reach the posterior angles rather narrowly. Pile black, yellow basally and on the yellow spots on the third and fourth segments. Genitalia mostly black, reddish below, black-haired. Venter reddish yellow and pale pilose.

Holotype.—Male, Kikuyu Escarpment, British East Africa.

Syrphus calinus, new species

Black, the abdomen with four pairs of orange spots; face with median black or brown vitta. Length, 9 to 11 mm.

MALE.—Face, front and cheeks orange, the front opaque, the cheeks with whitish pollen posteriorly. Frontal triangle large, with a large, transverse shining black spot covering the lunula. Vertical triangle black, thinly brownish pollinose. Occiput black in ground color, grayish white pollinose. Pile black, yellow on the upper half of the occiput, white on the lower half and on the cheeks. Face slightly receding below, the tubercle large and prominent, occupying more than half the length of the face; facial vitta blackish on the tubercle, pale brown above, not reaching the oral margin. Antennae brown; third segment oval, about one-third longer than wide; arista tapering from near its base. Eyes thinly short, whitish pilose.

Mesonotum shining black, the anterior third dulled by grayish-brown pollen, the sides broadly orange in ground color on their whole length. Pleura shining blackish green, with cinereous pollen and yellow spots as follows: a large spot above the front coxae, the posterior half of the mesopleura and a broad band extending over the upper edge of the sternopleura to the metapleura. Scutellum orange, with a black spot on the basal corners. Pile reddish yellow, black behind the suture and on the scutellum, but there is some yellow pile immediately above the base of the wings. Ventral scutellar fringe black.

Legs reddish yellow, the coxae black; posterior femora black on more than the basal half, the anterior four with the bases brown; posterior tibiae reddish brown; tarsi black. Pile black, yellow on the under surface of the anterior four tibiae and no the base of the hind femora.

Wings cinereous hyaline, the stigma pale brown. Squamae pale yellowish, with brown border and fringe. Halteres reddish yellow.

Abdomen opaque black, the base, narrow lateral margins and apices of the segments shining blue-black; bearing three pairs of large, obliquely placed oval orange spots. Sides of the first segment yellow. Spots on the second segment situated about its middle, separated from each other by about the length of one spot and only slightly oblique. The spots on the third and fourth segments are situated closer to the anterior margin, are less widely separated from each other and are strongly oblique. Spots on the fifth segment touching the base broadly, their outer ends obtusely rounded. Pile black, long and yellow on the base and lateral margins and anteriorly on the third segment; black on the sides of the fourth segment apically and on all but the base of the fifth. Genitalia shining black and with black pile.

FEMALE.—Facial tubercle smaller, more nose shaped, the vitta reddish brown. Front shining black, the pale orange color extending broadly from the face to the upper third of the front; facial pile yellowish except on the sides of the tubercle. Antennae with the basal segments and the lower fourth of the third reddish. Front coxae yellow, the anterior four femora wholly pale, the posterior pair broadly yellow basally, becoming brown apically. Abdominal markings as in the male but the sides and apices of the segments more broadly shining, the pile all black beyond the basal half of the second segment.

TYPES.—Holotype, male, and allotype, female, Mount Ruwenzori, Belgian Congo, April 15 and May 18, 1914 (J. Bequaert).

Despite the differences in color of the female I believe it belongs here. However, it may prove to belong to a different species.

Syrphus calopus Loew

Loew, 1857, Ofvers. Kongl. Vet. Akad. Förhandl., XIV, p. 379.

Sixteen specimens of both sexes, Johannesburg, South Africa, February to May.

Syrphus trisectus Loew

Loew, 1857, Ofvers. Kongl. Vet. Akad. Förhandl., XIV, p. 379.

Three females, Chirinda Forest, S. Rhodesia, November, 1930 (A. Cuthbertson); male, Ngomo, Congo, February 2, 1927; female, Memeh Town, Liberia, August 29, 1926 (J. Bequaert).

Syrphus pfeifferi Bigot

Bigot, 1884, Ann. Soc. Ent. France, p. 89.

Female, Burunga, Congo; female, Rutshuru, Congo, February, 1927, and male, Reppo's Town, Liberia, September 1, 1926 (J. Bequaert); male, Basutoland (Janson).

Syrphus cinctifacies Speiser

Speiser, 1910, Kil.-Meru Exp., X, pt. 5, p. 119.

Five males and twenty females, Wagira, Gara Mulata, Abyssinia (G. Kristensen).

Speiser described only the male and his description needs amplification. The black facial vitta is variable in width but seldom occupies less than the median third of the face; the third antennal segment is broadly reddish below; the humeri and a contiguous triangular spot are yellow; the scutellum is yellow with the border black except apically, there may be a poorly defined narrow blackish triangle basally in the middle and the hair on the disc is sometimes yellowish or reddish; the abdominal fasciae may be entire, partly interrupted or very narrowly interrupted in the middle.

In the female the facial vitta usually occupies a little less than the median third of the face and the yellow ground color extends along the orbits to the lowest third or less of the front; front shining black and wholly black haired. Legs reddish yellow, the tarsi and apical third of the posterior tibiae black. Abdomen with the base, apex, sides and apices of the intermediate segments shining black, normally bearing four pairs of narrow, transversely oblique yellow spots, but the first and fourth pairs may be absent or even all the spots missing or but poorly indicated.

In both sexes the lower part of the face is quite prominent, as in *arcticus*, and the cheeks are wholly black. The species is quite small and very suggestive of *Melanostoma*, as indicated by Speiser.

Ischiodon Sack

I know of but one African species belonging to this genus.

Ischiodon aegyptium Wiedemann

Syrphus aegyptium Wiedemann, 1830, 'Ausser. Zweifl.,' II, p. 133.

Female, Chirinda Forest, S. Rhodesia, November, 1930 (A. Cuthbertson); male and female, Basutoland; male and three females, Botshabelo, near Middleburg, Transvaal, 4000 ft. (H. A. Junod); male and two females, Johannesburg.

Baccha Fabricius

The number of species of *Baccha* occurring in Africa is undoubtedly large, the genus being relatively little known. The flies are easily recognized by their relatively large head and long, slender, usually spatulate abdomen.

Table of Species

1.—Alula fully developed.....2.
Alula absent.....*conifrons* Bezzi.
2.—Face reddish or yellowish.....3.
Face black, the cheeks sometimes reddish.....8.
3.—Face without a median black vitta.....4.
Face with median black vitta.....*extranea* Bezzi.
4.—Scutellum wholly yellowish.....6.
Scutellum mostly or wholly black.....5
5.—Scutellum wholly black.....*neavei* Bezzi
Scutellum with yellow border.....*euryptera* Bezzi
6.—Alula with brown tinge or strongly brown (*superpicta* Bezzi)..*picta* Wiedemann.
Alula yellowish or hyaline.....7.
7.—Mesonotum wholly yellowish.....*grahami* Bezzi.
Mesonotum yellowish with three black stripes.....*helva* Bezzi.
8.—Wings hyaline, with the stigma and a small apical spot dark brown.....9.
Wings wholly hyaline to brownish but without sharply defined apical spot...10.
9.—Abdomen wholly black.....*sapphirina* Wiedemann.
Abdomen partly reddish.....*ichneumonea* Bezzi.
10.—Second abdominal segment much shorter than the third.....11.
Second segment as long as or longer than the third.....13.
11.—Abdomen wholly black.....12.
Abdomen with yellow markings.....*claripennis* Loew.
12.—Squamae wholly white.....*brevis* Karsch.
Squamae more than half brown, the lower lobe partly white..*bequaerti* Curran.
13.—Cheeks yellowish in front.....*marginata* Bezzi.
Cheeks blackish.....14.

14.—Wings dark brown, the posterior border narrowly paler.....*inversa* Curran.
Wings at most strongly tinged with brown.....15.
15.—Anterior femora yellowish on apical half or more.....19.
Anterior femora narrowly yellowish apically.....16.
16.—Wings brown basally before the humeral crossvein.....17.
Wings not darkened basally.....18.
17.—Frontal triangle with yellowish-brown pollen above.....*brevis* Karsch.
Frontal triangle with pearly white pollen above.....*liberia* Curran.
18.—Wings with a distinct, diffuse apical spot.....*wainwrighti*, new species.
Wings without deeper apical infuscation.....*nitidithorax* Curran.
19.—Wings clear hyaline, the stigma black.....*eclara*, new species.
Wings tinged with brown and with an apical darker spot.....20.
20.—Third and seventh veins almost straight; second and third abdominal segments not broadly white-haired basally.....*praeusta* Bezzi.
Third and seventh veins strongly curved; second and third segments very broadly white-haired basally.....*cuthbertsoni*, new species.

Baccha picta Wiedemann

Wiedemann, 1830, 'Ausser. Zweifl.,' II, p. 93.
Baccha picta superpicta Bezzi, 1915, 'Syrph. Ethiop. Reg.,' p. 43 (f).

Male, Djambi, Congo, December 23, 1913 (Bequaert); female, Lukulela, Congo, December 21, 1930 (Chapin); female, Kolobamu, Liberia, October 19, 1926, and female, Monrovia, Liberia (Bequaert).

The two females from Liberia represent the form described by Bezzi as variety *superpicta* but I doubt if a name should be given it as the Lukulela female is intermediate between this and the typical form.

Baccha grahami Bezzi

Bezzi, 1915, 'Syrph. Ethiop. Reg.,' p. 43 (f).

Male, Paiata, Liberia, October, 1926.

This specimen agrees with the description of the type, a female, but the fifth abdominal segment is wholly black.

Baccha sapphirina Wiedemann

Wiedemann, 1830, 'Ausser. Zweifl.,' II, p. 96.

Male and female, Bulawayo, S. Rhodesia, May 1, 1927 (R. H. R. Stevenson); male and four females, Lourenço Marques, January–March, 1914; three females, Botshabelo, near Middleburg, Transvaal, 4000 ft. (H. A. Junod).

Baccha brevis Karsch

Karsch, 1887, Ent. Nach., XIII, p. 97.

Male and two females from Lukulela, December 16, 21, 1930, and January 13, 1931 (Chapin).

Baccha bequaerti Curran

CURRAN, 1929, Amer. Mus. Novit., No. 340, p. 10.

The type is a male from Eden, Cameroon (Bequaert).

Baccha inversa Curran

CURRAN, 1929, Amer. Mus. Novit., No. 340, p. 8.

The type female is from Lesse, Congo, July 21, 1924 (Bequaert).

Baccha nitidithorax Curran

CURRAN, 1929, Amer. Mus. Novit., No. 340, p. 9.

The type male is from Lesse, Congo, July 21, 1924 (Bequaert).

Baccha liberia Curran

CURRAN, 1929, Amer. Mus. Novit., No. 340, p. 9.

Described from a male from Memeh Town, Liberia, August 29, 1926 (Bequaert).

Baccha neavei Bezzi

BEZZI, 1915, 'Syrph. Ethiop. Reg.,' p. 46.

Male, Kowie, Cape Colony, November 29, 1896 (Dr. Penther); male, Mikindani, German East Africa, 1897 (Reimer).

Baccha wainwrighti, new species

Black, the antennae and legs in part reddish; wings pale brown with dark apical spot. Length, about 9 mm.

MALE.—Head black, the face and cheeks steel-blue, the occiput and broad sides and upper third of the face whitish pollinose, the frontal triangle with a very small triangle of whitish pollen above. Frontal triangle rather large and quite prominent, black pilose on the sides and above, the convex portion bare. Vertical triangle moderately long and narrow, with a median row of black pile, that on the ocellar triangle white. Occiput with white pile but toward the vertex there are a number of subsquamose black cilia. Oral margin strongly oblique, convex anteriorly, concave in the middle. Face perpendicular, with a moderately large tubercle on the lower half; short, white pilose. Antennae reddish, the third segment obliquely brown on the upper half, a little less than twice as long as wide, its apex evenly rounded; arista brown, reddish on the thickened basal portion.

Thorax shining black, more or less bronzed; pile pale brownish yellow on the pleura and on the sides of the mesonotum anteriorly, black on the mesonotum but there is a broad median band of pale yellowish hair extending forward from the scutellum almost to the anterior margin, and the "collar" is obscure yellowish. Scutellar pile yellowish, the long marginal hairs black, the ventral fringe pale.

Legs black or brown, the tips of the femora, bases of the tibiae and the tips of the anterior four, the anterior four tarsi and the basal segment of the hind pair, reddish yellow, the anterior four femora with reddish base; anterior four tibiae rather brownish red rather than brown. Pile short and inconspicuous except on the posterior surface of the middle femora, where it is long and black.

Wings pale brownish, the stigma and the subtriangular preapical spot dark brown. Squamae brownish. Halteres yellow, darker in front.

Abdomen shining bronze black, with opaque markings, strongly pedicellate, the second segment narrowed from the base to the basal fourth, thence with almost parallel sides to the apex, the third widening from base to apex where it is about four times its basal width, the fourth gently narrowing apically, longer than wide, the fifth twice as wide as long. Second segment with an incomplete, preapical opaque fascia, the third subopaque on the posterior half except laterally, the fourth with an incomplete, subopaque band across the middle the apical half and the fifth segment not metallic. Pile black, white on the first segment, on the sides of the third, where it extends entirely across the broad base, and on the anterior angles of the fourth. Genitalia shining bluish black and black-haired.

HOLOTYPE.—Male, Lourenço Marques, January-March, 1914 (H. A. Junod), received from Mr. Colbran J. Wainwright.

Baccha cuthbertsoni, new species

Black, the legs mostly reddish; wings tinged with brown except basally and with trace of preapical brown spot. Length, about 9 mm.

MALE.—Head metallic blackish blue in ground color, the frontal and vertical triangles shining black; pile black, pale yellow on the occiput, the upper occipital cilia brownish yellow. Frontal triangle rather small, moderately convex, the sides and upper border with pile, the middle bare, a very small spot of cinereous pollen above. Vertical triangle elongate and narrow, the row of hair wholly black. Occiput and face cinereous white pollinose. Oral margin strongly oblique. Face perpendicular, the tubercle of medium size and more prominent than the antennal base, shining black. Antennae reddish, the third segment slightly darkened above, one-half longer than wide, subcylindrical, the apex broadly rounded; arista brown on apical half.

Thorax shining black, the pleura with obscure yellowish pollen in the middle and whitish pollen on blackish-blue ground posteriorly. Pile yellowish, black behind the suture except in the middle, very pale on the pleura.

Legs reddish, the coxae, posterior femora except the ends and the posterior tibiae on the apical three-fourths, brown. Pile inconspicuous, pale, mostly black on the posterior femora and tibiae, long and blackish posteriorly on the middle femora.

Wings tinged with brown on the apical two-thirds, the stigma dark brown. Between the tips of the second and third veins there is a narrow brown spot along the costa that quickly merges into the pale field. Squamae and fringe white. Halteres pale yellow.

Abdomen shining black, with opaque markings, the sides of the first segment somewhat bluish. Sides of the second segment narrowed to the basal fourth, thence with parallel sides to the apical fourth which is slightly swollen and bears an incomplete opaque fascia; third segment decidedly longer than wide, increasing in width from the base to apex; fourth segment longer than wide and gently tapering apically; fifth segment three times as wide as long. Third segment with a large opaque triangle occupying the apical half except laterally, the fourth with a large, subopaque triangle extending forward from the apical fourth almost to the base, the fifth with the broad apex bronzed. Pile black, obscure yellowish on the basal two segments, whitish on the sides and broad base of the third, the fourth with a broad basal

fascia of appressed, sparse, white pile that is greatly expanded inside the lateral margins but does not reach the sides. Genitalia shining black. Venter bluish, with broad, opaque bands on the apices of the sternites.

HOLOTYPE.—Male, Lourenço Marques, April–July, 1914 (H. A. Junod), received from Mr. Colbran J. Wainwright.

Baccha eclara, new species

Black and metallic bluish; wings hyaline; fifth abdominal segment wholly white haired. Length, 8.5 to 10 mm.

MALE.—Head blue-black, wholly white pilose; cinereous white pollinose, the frontal triangle except along the narrow orbits and above, the vertical triangle and a quadrate spot covering the tubercle, shining black. Frontal triangle only gently convex and with a rather small non-pilose area; pile of vertical triangle in a median row. Sides of face thickly pollinose; anterior oral margin as prominent as the antennal base, the tubercle moderately small, rather sharply rounded. Antennae reddish, the third segment darkened above and apically, one-half longer than wide, subcylindrical, the end moderately sharply rounded; arista brown, with reddish base.

Thorax shining black, the pleura mostly bluish, with thin cinereous pollen. Pile wholly whitish.

Legs reddish yellow, the basal third of the front, half of the middle and all but the tip of the posterior femora brown; posterior tibiae brown on apical two-thirds; posterior tarsi becoming brownish red apically. Pile wholly whitish.

Wings hyaline; stigma brown. Squamae white. Halteres yellow.

Abdomen as in *cuthbertsoni* except that there is no opaque area on the fourth segment and the fifth segment and genitalia are entirely white pilose.

FEMALE.—Front moderately wide, below the middle with a broad band of ashy-white pollen; ocellar triangle as wide as long. Pollen on pleura moderately thick. The white pilose fascia on the fourth abdominal segment occupies the basal half of the segment laterally, is somewhat restricted in the middle and does not reach to the lateral margins on the basal fifth of the segment; the white pile of the fifth segment extends forward onto the disc of the fourth in the middle.

TYPES.—Holotype, male, allotype, female, paratypes, two males and two females, Lourenço Marques, January–March, 1914 (H. A. Junod). Types returned to Mr. Colbran J. Wainwright. Paratypes in Museum collection.

MELANOSTOMA SCHINER

Due to the fact that some of the species of *Melanostoma* are somewhat variable in coloration it is not possible to give a thorough revision of the species at this time. In order to clear up the identity of the various forms known from Africa it will be necessary to have a large amount of material. The key contains those species that I have been able to recognize in the available material.

TABLE OF SPECIES

1.—Antennae wholly black..... *infuscatum* Becker.
Antennae extensively reddish or yellowish.....2.

2.—Legs entirely yellow.....3.
Legs with black bands or posterior tarsi black.....4.
3.—Facial tubercle low and completely divided in the middle...*bituberculatum* Loew.
Facial tubercle normal, moderately prominent.....*floripeta* Speiser.
4.—First segment of posterior tarsi usually yellow or reddish, if not the second abdominal segment wholly black.....5.
Posterior tarsi brownish, practically uniform in color, the second abdominal segment with pale spots.....8.
5.—Second abdominal segment with yellow spots or markings.....6.
Second segment wholly black.....9.
6.—Yellow abdominal markings divided longitudinally by black vitta.....7.
Yellow markings not interrupted.....*pyrophaenoides* Speiser.
7.—Squamae of male with brownish border; spots on second abdominal segment small, roundish, especially small in female.....*automenes* Walker.
Squamae with yellow border; spots on second segment subrectangular, fairly large in both sexes.....*annulipes* Macquart.
8.—First segment of the posterior tarsi with yellowish or tawny hair above or it appears so from basal view.....*scalare* Fabricius.
Basal segment of posterior tarsi with black hair above.....sp.
9.—Posterior femora blackish except the base and apex.....sp.
Posterior femora reddish on more than the basal half.....*gymnocera* Bigot.

Melanostoma annulipes Macquart

Syrphus annulipes MACQUART, 'Dipt. Exot.,' II, part 2, p. 102 (f).

Male and female, Boswenda, Congo, October 10, 1914; female, Tshumbiri, Congo, December 14, 1926; male and female, Du River Camp No. 3, Liberia, 1926; male, Reppo's Town, Liberia, September, 1926 (J. Bequaert).

Melanostoma automenes Walker

Syrphus automenes WALKER, 1849, 'List. Dipt. Brit. Mus.,' III, p. 589.

Male, Ngomo, Congo, February 2, 1927 (J. Bequaert); female, Bunnga, Uganda, June 6, 1926.

Melanostoma infuscatum Becker

BECKER, 1910, Ann. Soc. Ent. France, p. 26.

Two males, Mt. Ruwenzori, Congo, May 18, 1914; male and five females, Burunga, Congo (J. Bequaert).

Melanostoma gymnocera Bigot

BIGOT, 1891, Ann. Soc. Ent. France, p. 375.

Three males, Ukaika, December, 1910 (Grauer).

In his work on the African Syrphidae Bezzi placed *gymnocera* as a synonym of *mauritiana* Bigot, despite the statement of Bigot that the

latter bears two pale spots on the second abdominal segment, these being absent in *gymnocera*. The male of *gymnocera* superficially resembles *infuscatum* Becker but differs in having the antennae mostly reddish and with much longer third segment, and, of course, reddish anterior femora.

Melanostoma bituberculatum Loew

Syrphus bituberculatum Loew, 1859, Ofvers. Kongl. Vet. Akad. Förhandl., XIV, p. 379.

Male and female, Wagira, Gara Mulata, Abyssinia (G. Kristensen); male and female, Lake Chrissie, S. E. Africa, female, Basutoland (Janson); three females, Lourenço Marques, April–July, 1914 (H. A. Junod); male, Johannesburg, 1904 (J. P. Cregoe).

Xanthandrus Verrall

Verrall, 1901, British Flies, VIII, p. 316.

This genus has not been recorded from the Ethiopian Region although a species has been described from Madeira by Bigot. The following table separates the Palaearctic and African forms.

1.—Mesonotum shining, pollinose only on the broad sides in front.....2.
Mesonotum pollinose in front of the suture and before the scutellum.....
.....*congensis*, new species.
2.—Face black haired and thinly pollinose.....*hyalinatus* Bigot.
Face cinereous pilose and pollinose.....*comtus* Harris.

Xanthandrus congensis, new species

Black, the legs mostly reddish, the abdomen with reddish markings. Length, 11 mm.

Female.—Head black in ground color, the front with a large, convex area immediately above the antennae reddish. Front shining, densely ochraceous pollinose below the middle and along the orbits opposite the antennal tubercle, metallic bluish immediately below the pollinose fascia, in front of the ocellar triangle with a large, prominent swelling extending almost from side to side; vertical tubercle distinctly swollen, the ocellar triangle wider than long. Occiput cinereous yellow pollinose, the cheeks pale. Face with thick ochraceous pollen, the tubercle round and shining black. Antennae brownish red, the arista black on the apical half; third segment brown, about three times as long as wide, somewhat longer than the second segment. Pile very short, brassy yellow, black on the upper half of the front.

Thorax aeneous in ground color, the pleura whitish pollinose; mesonotum with a broad posterior band of dense ochraceous pollen, and with paler pollen laterally in front of the suture, in the middle in front of the suture with thin brownish-yellow pollen. Pile very short, brassy yellow dorsally, white on the pleura, a broad band behind the suture mixed black and yellow. Scutellum large, distinctly margined. Mesonotum and scutellum with tiny tubercles, those on the margin of the scutellum conspicuous.

Legs rusty reddish, the tarsi blackish above; basal half of anterior four tibiae

yellow, the trochanters and immediate bases of the femora reddish yellow, the posterior tibiae reddish brown. Anterior tarsi distinctly broadened.

Wings hyaline, the stigma luteous. Squamae white, broadly yellow apically. Halteres reddish yellow.

Abdomen black, the sides and apex shining. First segment and a large, hemispherical spot on the second that is produced broadly to the lateral margins basally, dull orange; third segment with an incomplete orange fascia that is widest in the middle and tapers to the rounded ends, narrowly separated from the base of the segment and broadly so from the lateral margins. The black of the second and third segments is opaque, the fourth is subopaque although this segment appears to be mostly shining in some lights. Pile very short and black, yellowish only on the broad base of the abdomen. Venter reddish.

HOLOTYPE.—Female, Lukolela, Belgian Congo, December 16, 1930 (J. P. Chapin).

PARAGUS LATREILLE

This genus is represented in Africa by seven species separable by the following key. Owing to the great variation in the color of the abdomen of some of the representatives of the genus a number of varietal names have been applied but these should be ignored. Some are based upon color characters that are sexual while others apply to individuals having a rather distinctive color pattern.

TABLE OF SPECIES

1.—Scutellum wholly black.....3
Scutellum broadly yellow apically.....2.
2.—Apex of the scutellum crenulate.....*serratus* Fabricius.
Scutellum without teeth.....*aegyptius* Macquart.
3.—Face without a distinct tubercle, not concave between the weak tubercle and oral margin.....4.
Face with a distinct tubercle and decidedly concave above the oral margin.....*tibialis* Fallen.
4.—Abdomen wholly black, rarely with reddish apex.....5.
Abdomen with the disc broadly yellow, the second segment as wide as the third.....*borbonicus* Macquart.
5.—All the femora black basally.....6.
Anterior four femora wholly yellow.....*dolichocerus* Bezzi.
6.—Second abdominal segment in both sexes wider than long, in the female very much wider than long.....*marshalli* Bezzi.
Second abdominal segment in the male much longer than wide, in the female at most as wide as long.....*longiventris* Loew.

Paragus tibialis Fallen

Pipiza tibialis FALLEN, 1817, 'Dipt. Suec., Syrph.,' p. 60.

Two males and one female from Johannesburg, South Africa; female, Basutoland; female, Salisbury, Southern Rhodesia, May 1, 1927 (A. Cuthbertson).

Paragus serratus Fabricius

Mulio serratus Fabricius, 1805, 'Syst. Antl.,' p. 186.

Male, Lourenço Marques, April–July, 1914 (H. A. Junod).

Paragus borbonicus Macquart

Macquart, 1842, 'Dipt. Exot.,' II, part 2, p. 106 (f).

Male, Beni, Congo, May 1, 1914; male, Lesse, Congo, July 21, 1914; female, Stanleyville, April 11, 1915; male, Lubutu, Congo, February 6, 1915; two males, Du River Camp No. 3, Liberia, 1926; male, Memeh Town, Liberia, August 29, 1926; male and female, Kakatown, Liberia, August 20, 1926 (J. Bequaert); five males, Lourenço Marques, 1914 (H. A. Junod); two males, Salisbury, Southern Rhodesia, January 20, 1935, and March 24, 1931; male, Bala Bala, Southern Rhodesia, March, 1931, and female, Chirinda Forest, Southern Rhodesia, November, 1930 (A. Cuthbertson).

Paragus marshalli Bezzi

Bezzi, 1915, 'Syrph. Ethiop. Reg.,' p. 13, (f).

Male and female, Memeh Town, Liberia, August 25, 29, 1926; male, Reppo's Town, Liberia, September 1, 1926.

Paragus longiventris Loew

Loew, 1857, Ofvers. Kongl. Vet. Akad. Förhandl., XIV, p. 376.

Male and female, Gbanga, Liberia, September, 1926; male, Lenga Town, Liberia, August, 1926; female, Reppo's Town, Liberia, September, 1926 (J. Bequaert); male, Wagira, Gara Mulata, Abyssinia (G. Kristensen).